

NOTES, ABSTRACTS, AND REVIEWS.

NEW MARINE OBSERVATORY IN JAPAN.

Announcement has reached the Weather Bureau of the opening of the new marine observatory at Kobe, Japan, on August 26, last. This institution, which owes its existence to the business men of Kobe, will have for its principal aims researches on meteorological, oceanographical, and nautical subjects. Special attention will be devoted to the Pacific Ocean. Facilities will be provided for the repair and test of navigational instruments.

It is expected that publications of the observatory will be printed in European languages.

METHOD OF PREPARATION OF MARINE METEOROLOGICAL CHARTS.

The following data give an idea of the work required in preparing the charts showing the weather conditions over the North Atlantic Ocean, that appear in the MONTHLY WEATHER REVIEW. The month of August, 1920, is taken as an example, and the results are based on the forms received up to October 16. A few reports were received after that date, but not enough to change the figures materially.

The number of Forms 1201-M for the month of August received up to date (Oct. 16) from reporting vessels in the North Atlantic Ocean are as follows: July-August, 124; August, 253; August-September, 112. The first and last are known as "split months," and it is assumed that the total number of observations are divided equally between the two months, and one-half of the sum can therefore be considered as August reports. This number is 118, which added to 253 gives 371 as the total number received for the month.

An examination of over 200 forms shows the average number of observations as 9.43, which multiplied by 371 gives the total number as 3,499.

It often happens that a number of vessels are so near the same position at Greenwich mean noon of a certain date that it is impossible to plot more than one of them, although the others may be useful in verifying the observations of the first. A number of observations are rejected on account of unreliable barometric readings, or because they were taken at local noon instead of Greenwich as well as for other reasons. While as stated before 3,499 observations were received, only 2,352, or 67 per cent, were plotted. The daily number of the latter varied considerably, the least being 61 on the 20th and the greatest 87 on the 2d. The means for the three decades of the months were 82, 71, and 74, respectively, and for the entire month 76. About 50 land stations were also plotted daily; these were taken from the United States and British daily weather maps, and the number varied slightly, as observations were sometimes missing.

Taken as a whole, the number of reports shows a gratifying increase during the last two years, especially over the steamer lanes. There are regions, however, in the north, as well as a large portion of the Caribbean Sea, which are seldom heard from, and efforts are being made to obtain the cooperation of shipmasters visiting these waters.—*F. A. Young, Marine Division, U. S. Weather Bureau, Washington, D. C.*

WANDERING STORMS.

[Reprinted from *Nature*, London, Nov. 4, 1920, p. 321.]

Wandering storms form the subject of an article by Prof. A. McAdie, of Harvard University, in the Geographical Review for July last. The communication is for the most part based on Sir Napier's Shaw's Manual of Meteorology, Part IV, published during the war, which discusses the relation of the wind to barometric pressure and the travel of cyclones. Prof. McAdie instances three unusual storm tracks dealt with by Sir Napier Shaw, and alludes to the need in forecasting of knowledge of recurring storms, with especial reference to the aviator and his long-distance flights. A remarkable instance is given by the author of the erratic travel of a disturbance from May 8 to June 6, 1910. This is tracked from the Strait of Juan de Fuca to the Grand Banks, when it is said to have recurved again and again and to have come back to the continent on May 26. It then merged with a storm that was moving north from Texas, and after meandering about to the east and northeast of Nova Scotia for 10 days, until June 6, the disturbance dissipated.

PROGRESS OF METEOROLOGY.

By W. H. DINES.

[Abstracted from *Nature*, Nov. 6, 1919, pp. 247-248.]

"The progress of meteorology during the last 50 years has been very marked, as may be seen by a casual reference to the current meteorological literature of the period 1865-1875; to a great extent it resembles the emergence of astronomy as an exact science from the old astrology, but it must be confessed that the Newton of meteorology has not yet appeared."

The article follows the development of the science from the mere seeking for recurrences in the weather, through the applications of the laws of thermodynamics and mechanics of the atmosphere, and finally, perhaps, the somewhat overardent application of mathematics. But the turn is for the better, and the value of mathematics as an aid to meteorological investigation can not be overestimated.

The problem of the meteorologist of middle latitudes has always been in the direction of the genesis of the moving cyclone and anticyclone, and this investigation has led far into the upper air, through the troposphere and into the stratosphere, where interesting and important correlations between temperature and pressure have been obtained. "[Over England] from 1 km. and upward there is a very high correlation, indeed, between temperature and pressure; between 4 and 8 km. the correlation coefficients are more than 0.85; they then fall off rapidly so that there is again no correlation at the boundary between the troposphere and the stratosphere. Above this, in the lower part of the stratosphere, the correlation is negative and reaches $-.030$, but falls off with increasing height." To the author's mind, the changes in the temperatures aloft are the results, rather than the causes of the pressure distribution.

In addition to the vast data obtained by sounding balloons, there is also an accumulation of information obtained from pilot balloons, a large part of which has not yet been discussed.